

THE USE OF SACRIFICIAL INORGANIC DIELECTRICS FOR DUAL
DAMASCENE PROCESSES UTILIZING ORGANIC INTERMETAL
DIELECTRICS

ABSTRACT OF THE DISCLOSURE

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Dual damascene methods of fabricating conducting lines and vias in organic intermetal dielectric layers utilize sacrificial inorganic dielectrics. In one embodiment, a via opening formed in organic intermetal dielectric layers is filled with sacrificial inorganic dielectric. A line opening is formed aligned with the via opening. The sacrificial inorganic dielectric is selectively removed. The via and line openings are filled with conducting material. In a second embodiment, a line opening formed in organic intermetal dielectric layers is filled with sacrificial inorganic dielectric. A via opening is formed aligned with the line opening. The sacrificial inorganic dielectric is selectively removed. The via and line openings are filled with conducting material. The sacrificial inorganic dielectrics protect the organic intermetal dielectric layers, preserving critical dimensions and facilitating photoresist rework. The sacrificial inorganic dielectrics are removed without damaging the organic intermetal dielectric layers.